

## XLII.—On the Breeding of the Purple Gallinule in Captivity.

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THE following account of the breeding in captivity of the Purple Gallinule (*Porphyrio caruleus* Vandelli) may be of interest to some of the readers of 'The Ibis,' being, so far as I am aware, the first recorded instance of such an occurrence; notwithstanding that the species is easily domesticated, and in fact may be occasionally seen in a Sicilian poultry-yard, living in perfect harmony with the common barn-door fowl.

For some years past I have been in the habit of keeping several of these birds in an enclosure in my garden near Palermo, but until last year no attempt at nesting had taken place among them; and I was beginning to give up all hope of the birds breeding, when one day in April last I discovered a nest with three eggs in it. After a fortnight's incubation, however, for some reason or other unknown to me, this nest was deserted, and I found but one of the eggs remaining, the other two having probably been destroyed by the birds themselves.

A second attempt at nesting occurred in the early summer of last year, during my absence from Sicily, and this time with a satisfactory result, three young birds being hatched and successfully brought up. According to my gardener, who had the charge of these birds, incubation in this instance commenced about the beginning of July, and lasted between three and four weeks. The young birds, which are now about eight months old, are scarcely distinguishable from the adults.

A third case of nidification has but recently occurred in my little colony of Purple Gallinules, and, having taken place in mid-winter, is for that reason all the more remarkable. As I have myself been able personally to observe and follow the different phases of this case from beginning to end, I think it worth while to describe them in detail, hoping that the interest attaching to the facts may be sufficient justification for my prolixity. Before proceeding further, however, I may mention that the enclosure in which the

Porphyrios are kept covers an area of about 40 square yards, and is surrounded and covered in with wire-netting. It adjoins a little lake, and has clumps of bamboo (*Bambusa mitis*) growing in it, which afford ample shade and shelter, and aid in rendering the environment somewhat similar to that of the birds' natural habitat.

Returning to my starting-point, I may say that I first noticed one of the birds sitting on a nest about the 25th of December last, and a day or two afterwards, availing myself of a moment when the nest was uncovered, I was able to peep into it and saw that it contained two eggs, a number which was increased to three on the following day. Three eggs are undoubtedly the full complement of this species. Notwithstanding the inclemency of the weather, incubation proceeded regularly and uninterruptedly until the 18th January, when the three eggs were hatched, the chicks beginning to run about a little the same day, although the old hen endeavoured to keep them under her wings as much as possible, instinctively fearing, no doubt, that the cold might be too severe for them. The old male bird also was most assiduous in his care of the brood, and both parents would rush at any one approaching the enclosure, clamorously protesting at the intrusion. I would here say that I thought at first that the male bird took part in the incubation of the eggs, but subsequent observation leads me to think that he does not do so as a rule, although he may occasionally go on to the nest; in fact, I have once or twice seen both the old birds on the nest at the same time! After the first day or two the young chicks began to move about more, and also to peck a little at the food supplied to them, although, as a rule, they seemed to be fed by the parent birds, and this continued until quite recently. Excessively shy at first, the little things would run off and hide themselves immediately anyone appeared in sight, thus demonstrating the natural and hereditary timidity of the species. The only sound I have heard these chicks utter has been an occasional chirp, not unlike that of a young Sparrow.

The plumage of the chick in its first stage consists entirely

of a rich velvet-black down, with a few filamentary feathers (*filoplumæ*) on the head and wings, while the bill and frontal shield are white, with a little red round the nostrils and base of the bill. The iris is of a dark slate-colour. The legs and feet are of a rosy flesh-colour, and not white, as erroneously stated by some authors, who perhaps may only have had the opportunity of observing unborn chicks, taken from the egg, the legs of these being in fact white in that stage.

The *pollex*, or first digit of the wing, in the young of this species is highly developed, and bears a sharp and well-pronounced claw at its extremity. After a month or so the plumage of the young birds, although still in down, assumes a more dingy or smoky-black colour in place of the rich velvet-black, and some whitish down appears on the lower parts and under tail-coverts; the bill becomes black instead of white, and the legs and feet exchange their rosy flesh-colour for a leaden-grey brown; the iris at this period is olive-brown. Up to the time of my writing, the plumage of these young birds, which are now about two months old, shows no blue colour, and this will probably not appear until the contour-feathers are assumed, when the bill and frontal shield, as well as the legs and feet, will, no doubt, also become red.

The eggs of the Purple Gallinule, of which I have a good series from Vittoria, on the south coast of Sicily, are of a warm buff or yellowish stone ground-colour, with shell-spots and blotches of greyish violet and surface-markings of reddish brown. They are generally rather elongated in shape, and measure from 55 to 60 mm. in length by 35 to 40 mm. in width. The nest of this bird in its wild state, I am told, is a rude structure, somewhat resembling that of the Common Moorhen, and is generally to be found in the thickest part of some dense growth of flags or other aquatic plants. The nests of the birds in my garden were all made of the dry leaves of the bamboo, loosely put together, and placed at the foot of a clump of these plants. In its natural state the Purple Gallinule commences breeding about the end of March, and nesting is continued until June, during which month I have even had fresh eggs sent to me.

The species is tolerably plentiful in Sicily wherever there are any marshes or lakes of a fair size, such as at the Pantano di Catania, the Biviere di Lentini, the river A'napo near Syracuse, and at Vittoria on the south coast. I am told there are also a few of these birds to be found in the Mazzara marshes on the west coast of Sicily.

Benoit, in his book on the birds of Sicily, gives a good description of some of the habits of this species, and Doderlein, in 'Avifauna del Modenese e della Sicilia,' reproduces this description, and adds some further interesting notes. Neither author, however, seems to have noticed the difference between the voices of the male and female birds. That of the male is low and sonorous, terminating with some hoarse trumpet-like notes, while that of the female is shrill and ends with a series of notes which may be very fairly rendered by the word "crick" several times repeated.

With regard to the powers of natation in this species (which Benoit seems to have doubted), I can, from personal observation, confidently affirm that, although as a rule it shows a preference for dry land, it can and, when so required, does swim with the greatest ease and facility. I have even seen chicks only a few days old swimming. The Italian name of the Purple Gallinule is "Pollo sultano," and the Sicilian name "Gaddo fagiano" or "Gaddu fascianu."

P.S.—Since this was written, now more than two months ago, some changes have taken place in the plumage and general characters of the young Purple Gallinules born in January.

The first blue contour-feathers appeared soon after the completion of the second month, and about the end of the third month the colour of the soft parts began to turn red.

At the present time these young birds, which are now about four months old, have the plumage of their upper parts entirely blue, while that of their lower parts is also blue to a great extent, although a few greyish down-feathers still show. The soft parts are now all red, but of rather a duller shade than that of the adult birds. The colour of the iris is now also red.